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ABSTRACT

This issue of the "Professions Education Research Notes" is devoted to the theme of "The Future of Educational Research in the Professions." Four articles have been extracted from the issue to form this document: "The Future of Educational Research in the Professions," by Carole J. Bland, introduces the other articles and describes, as context for the articles, concerns about the level of contribution to larger educational questions of researchers in the professions. "Educational Research Environments in the Professions," by Wayne K. David and Robert F. Dedrick, describes a survey of researchers in the professions that examined characteristics of the research environments of respondents and the impact these conditions have on research performance and work satisfaction. The study found certain factors to be associated with success (e.g., percent of time conducting research, number of roles performed, and number of professional contacts) that can be manipulated to enhance performance and satisfaction. "The Future Focus of Research in Professional Education: Should We Establish an Agenda?" by Frank T. Stritter, describes a survey conducted on the need for a research agenda and the critical issues to be studied. Disagreement was found on the need for an articulated agenda, but some agreement was found on critical issues for the field. "A Commuter's Guide to Educational Research in the Professions," by Lee Shulman, discusses some enduring questions for education in the professions and the need for a reorientation, or resocialization, for the field. (KM)

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The Future of Educational Research in the Professions
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The Future of Educational Research in the Professions

Carole J. Bland
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The impetus for this topic was the profile of proposals submitted to Division I over the past few years. In general, topics have been scattered and no set of critical questions has emerged. Many papers lacked a theoretical base and appeared done as an aside to current service obligations rather than in response to an enduring research question. Further, the questions studied seldom related to major questions in the larger arena of education.

These observations led to a broader discussion of the educational researcher working in the professions. Many feel a sense of isolation from the larger educational research community because we are "serving" the professions. We were concerned about our level of contribution to larger educational questions. We noted our lack of common research questions; instead of being linked by central educational questions we are linked by common service responsibilities. We asked each other, is it possible for educators in professional schools to conduct meaningful educational research?

On the other hand, we believe professional education has the potential for being a most exciting and productive research area. In some areas, such as decision making and problem solving, we have been not only productive researchers, but leaders.

Further, we are in a unique position to research other broadly important questions. For example, the professions have been educating adults systematically (and not so systematically) for a long time. Adult education is certainly a burgeoning area and one which we may be uniquely situated to investigate. Or — there is an interesting recognition of the importance of studying the education of the professionals because of the disproportionate influence they have in society. This too is an area we seem uniquely situated to address given our positions that span professions and our training in educational research.

As a result of these concerns and discussions, we decided to hold two invited sessions at AERA on stimulating and focus-

ing educational research in the professions.

This documents the first of those sessions in which Frank T. Stritter will discuss the need for a Division I research agenda; Wayne K. Davis will look at our ability to address the agenda; and Lee Shulman concludes by discussing how educational research in the professions should, and somewhat does, draw from and contribute to the larger arena of education.

Frank T. Stritter, Ph.D., is a Professor in the Schools of Medicine and Education at the University of North Carolina at Chapel Hill. He is also the Director of the Office of Research and Development for Education for Education in the Health Professions. He is a former chairman of the Group on Medical Education of the Association of American Medical Colleges and a former chairman of the Program Planning Committee for Division I. He has written chapters on professional education in the *Handbook of Health Professions Education*, the *Handbook for the Academic Physician*, and the new *Handbook of Research in Teaching*.

Wayne K. Davis received his Ph.D. in Educational Psychology from the University of Michigan in 1971. He is currently Professor of Postgraduate Medicine and Health Professions Education and Director of the Office of Educational Resources and Research at the University of Michigan Medical School where he is also Assistant Dean for Curriculum.

Lee Shulman, Ph.D., is a Professor in Education at Stanford and Immediate Past President of AERA. He previously worked with the professions for many years while at the Office of Medical Education, Research and Development at Michigan State University. Dr. Shulman is a prolific researcher, one of his recent writings is the lead article in the third *Handbook of Research on Teaching*. We are pleased to have him as a discussant on the question of educational research and the issues and environments of educational researchers in the professions.

Educational Research Environments in the Professions

Wayne K. Davis and Robert F. Dedrick*
University of Michigan

In recent years much has been learned about the characteristics of work environments that influence the performance of researchers. Pelz and Andrews (1978), for example, in their study of over 1300 scientists and engineers found that scientific productivity often flourished in the presence of factors that seemed antithetical. They summarized their findings into two main themes:

"On the one hand, technical men were effective when faced with some demand from the environment—when their associates held divergent viewpoints or the laboratory climate required disruption of established patterns. These might be called *conditions of challenge*."

"On the other hand, technical men also performed well when they had some protection from environmental demands. Factors such as freedom, influence, or specialization offer the scientist stability and continuity in his work — *conditions of security*" (p. xv).

In all, Pelz and Andrews identified eight challenges or tensions which promote technical achievement. Two of these "creative tensions" are discussed below.

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TENSION 1: Science versus Application

Ph.D.s were judged most effective when they devoted only half their time to research and the remainder to activities that could be called technical assistance and development. "Even in laboratories devoted to pure research the best performers carried on *four* functions; they did not concentrate on research alone, but spent some time on development or service functions. The Ph.D.s did their best work not when they devoted full time to technical activities but when they spent about one-quarter of their time in either teaching or administration" (p. xviii). Pelz and Andrews argued that diversity of activities serves not only to broaden one's perspectives but also serves to challenge the researcher to higher levels of accomplishment.

TENSION 2: The Individual and the Organization

Pelz and Andrews hypothesized that increased autonomy should lead to greater stability and continuity in work. These conditions of stability, it was postulated, should subsequently lead to increased productivity. The results of the study showed, however, that productivity began to drop if the scientist had more than half the weight in choosing his/her goals. Further investigation indicated a role for institutional structure in this regard. A loose organization provides high security and little challenge. It does not make demands on its members. It was found that in loosely coordinated units, highly autonomous individuals "actually experienced less stimulation, from

either external or internal sources. They withdrew from contact with colleagues; they specialized in narrow areas; they even became less interested in their work. In these settings, maximum autonomy was accompanied by minimum challenge" (p. xxii). This combination led to low productivity.

Purpose of the Study

The purpose of this study was to investigate the extent to which the findings reported by Pelz and Andrews could be extended to members of AERA Division I working in applied research settings. To accomplish this purpose this study examined characteristics of the research environments of these individuals and the impact these conditions have on research performance and work satisfaction.

Method

Subjects: Mailed questionnaires were sent to all 956 members of AERA Division I in January of 1986. Three hundred and sixty seven completed questionnaires were obtained by the cutoff date without the use of a followup (response rate of 38.4%).

The average reported age of the respondents was 42.7 years ($SD = 8.0$, range = 23-68). Sixty-seven percent of the respondents held a Ph.D. degree, 13% and Ed.D., 15% a Master's degree, 2% held an M.D. degree and 3% held a B.S. or other degree. The majority of the respondents were affiliated with either a medical school (30%) or a school of education (24.9%). The rest of the sample was affiliated with a variety of other settings.

Instrumentation: The questionnaire was developed by the first author and consisted of both open and closed ended questions examining a variety of individual, social, administrative, and organizational variables. Two major indices were constructed from the items in the questionnaire: an index of research success and an index of work satisfaction.

The most commonly used measure of scientific performance is the rate of publication in peer reviewed journals. Unwilling to accept this measure as the sole indicator of research success, a research success index was constructed as a weighted combination of three standardized variables: rate of publication (weight = .5), "funded to do research?" (weight = .3), and "percent of research priorities that were self-determined" (weight = .2). The selection and weighting of variables included in the success index were somewhat arbitrary. They can be defended, however, as the variable is weighted toward publication rate which is "the coin of the realm" in establishing research credentials. This success variable is reported as a standard score with a mean of 500 and a standard deviation of 100.

The work satisfaction score is a unit weighted mean score of the satisfaction ratings for each role played by the respondent. For some respondents it was the rating of satisfaction with one role and for others it was a mean satisfaction rating for as many as five roles. The possible range of values for the satisfaction index was 1 to 5. The reliability of the index as measured by Cronbach's alpha was .67.

Data Analysis: Descriptive statistics (means, standard deviations, and percentages) were used to describe the characteristics of the research environments and the two outcome measures. Following a description of these variables the relationships between the environmental characteristics and the levels of research performance and work satisfaction were examined using Multiple Classification Analysis (MCA). This technique was used to address two questions: How much variance in the outcome measures could be explained by a group of individual and environmental factors? And what is the nature of the bivariate relationship between each predictor and the outcome variables when the effects of other predictors are statistically controlled? MCA was used rather than the traditional techniques of multiple regression or analysis of

variance because the predictor variables were measured on ordinal scales and were interrelated to some degree. In addition, MCA was used because it was suspected that the relationships between the predictors and the outcome measures were not linear. Given that MCA assumes an additive model, preliminary analyses were carried out to explore potential interactions among the predictors. No significant interactions were found.

Results and Discussion

An analysis of the work conditions and characteristics of the members of Division I revealed a busy and versatile group. Seventy-one percent of the respondents performed four or five of the following roles: administration, teaching, research, service, and evaluation. Only 3% performed a single role. Each of the respondents was classified into one of the five major role categories based on the amount of time spent in that category. The distribution of Major Role groups included: administration (34.4%), teaching (23.5%), research (18.2%), service (14.8%), and evaluation (9.2%).

In general, the respondents had a variety of professional contacts. About 78% indicated that they had contact with individuals in three or more of the following settings: school of education, psychology department, professional education within their own setting, professional education outside their own institution, and discipline based professionals.

Respondents indicated that they spent a relatively small portion of their time in research: forty-three percent reported spending 10% or less of their time in research. Despite the small percentage of time spent in research, 65.5% of the respondents reported that they had an active research program and 42.8% noted that they were currently funded to do research. Forty-nine percent of the respondents reported that service activities inhibited their ability to conduct research.

One of the hypotheses carried into this study was that a fairly large number of Division I members had little control over the research they conducted. This hypothesis was not supported by the data. More than half the respondents reported that they established more than 80 percent of their own research priorities.

Respondents were asked to assess their environment in terms of its *demand upon* and *rewards for* the researcher. In general, the ratings regarding the degree to which the environment was rewarding ($M = 3.38$) were significantly more positive than the ratings of the environment in terms of demand ($M = 3.09$, $t_{(343)} = 4.96$, $p < .001$).

Research Success and Work Satisfaction

Two outcome variables were examined in this study: research success and work satisfaction. The index of research success ($M = 500$, $SD = 100$) was slightly skewed to the right with 13.7% of the respondents scoring less than 400, 40.8% scoring between 400 and 499, 30.1% between 500 and 599, 11.3% between 600 and 699, and 4.1% scoring 700 or more. Analysis of the key component of the research success index - annual rate of publication - indicated that respondents averaged 1.07 papers per year ($SD = 1.09$, range = 0 - 7). The distribution of this variable was skewed with about 54% of the respondents producing less than one paper per year; 32.9% of the respondents producing between one and two papers per year; and 13.5% of the respondents producing more than two papers per year.

The respondents expressed a moderate to high level of satisfaction with their work situations ($M = 3.6$, $SD = .8$). This result is supported by the finding that 88% of the respondents indicated that they would probably or definitely accept the same position given their current knowledge of the position.

The Pearson product - moderate correlation between the success and the satisfaction indices was .22 indicating a moderate, positive relationship between these two variables.

Multiple Classification Analysis

Table 1 presents the results of the Multiple Classification Analyses which examined the relationships between the two outcome measures - research success and work satisfaction - and the following predictor variables: number of roles, percent effort spent in research, demand of the research environment, number of different types of professional contacts, and years since the completion of formal training. In the first MCA ($n = 279$) 25.1% of the variance in research success was explained by the five predictors. In the second MCA these same factors explained 20.4% of the variance in the work satisfaction index ($n = 321$). In general, these predictors had a moderately strong relationship with the two outcome measures.

Table 1
Multiple Classification Analyses for
Research Success and Work Satisfaction

Predictor	Outcome Measures			
	Research Success		Work Satisfaction	
	Beta	Eta	Beta	Eta
Years Since Formal Training	.27	.23	.19	.18
Percent Effort in Research	.25	.27	.22	.29
Demand of the Environment	.21	.28	.26	.32
Number of Professional Contacts	.19	.24	.13	.14
Number of Roles	.16	.15	.11	.11

An examination of the bivariate relationships between each independent variable and the success index controlling for the effects of the other independent variables revealed that years since the completion of formal training was the most important predictor of research success ($\beta = .27$), followed by percent effort in research ($\beta = .25$), demand of the research environment ($\beta = .21$), number of professional contacts ($\beta = .19$), and number of roles ($\beta = .16$). The rank order of the predictors for the satisfaction index was slightly different with the demand of the environment being the most important predictor ($\beta = .26$), followed by percent effort in research ($\beta = .22$), years since the completion of formal training ($\beta = .19$), number of professional contacts ($\beta = .13$), and number of roles ($\beta = .11$). (For further information about the bivariate relationships between the predictors and dependent variables when the other predictors are not statistically controlled for see the eta values listed in Table 1.)

Table 2 presents the adjusted means for research success and work satisfaction broken down by each predictor variable. These means take into account the effects of the other predictors. In looking at the means for research success broken down by the number of years since the completion of formal training one can see that the scores increased during the years 1 - 4, decreased during the 5 - 9 period, and then recovered after the nine year period. As noted by Pelz and Andrews, research success may decline during the 5 - 9 period because "individuals relax their zeal or motivation after having achieved" (p. 197). Interestingly, work satisfaction tended to increase as the amount of time since training increased.

Not surprisingly, research success tended to increase as the percent effort in research increased. Satisfaction, howev-

er, had a curvilinear relationship with percent effort in research with the maximum amount of satisfaction occurring for those individuals who spent 21 - 30% of their time in research.

Research success also increased as the research environment became more demanding (categories 1 - 4). For the very demanding category (category 5), however, research success dropped off. These results suggest that while challenges are important for stimulating performance, an environment that is too demanding can have an inhibiting effect on performance. Despite the drop off in performance, satisfaction had a positive monotonic relationship with the demand of the environment.

For the last two predictors, research success tended to increase as the number of roles performed and the number of professional contacts increased. These results collaborate Pelz and Andrews' finding that diversity in the work environment serves to stimulate creativity and research performance. On the negative side, however, it is clear that too much diversity can lead to role overload, conflicting demands, and work dissatisfaction. In this study satisfaction tended to decrease as the number of roles increased. Satisfaction remained relatively constant regardless of the number of professional contacts.

Table 2
Adjusted Means for Research Success and
Work Satisfaction by Environmental
and Individual Factors

Predictor	Research Success			Work Satisfaction		
	n	M	SD	n	M	SD
Years Since Formal Training						
Current	22	428.2	83.3	30	3.33	.80
1 - 4	52	499.3	112.8	60	3.46	.91
5 - 9	135	483.4	101.3	77	3.63	.79
9	135	529.5	90.7	154	3.77	.78
Percent Eff. in Research						
0 - 10	119	474.0	89.3	136	3.46	.88
11 - 20	52	502.9	99.2	59	3.71	.65
21 - 30	49	525.7	99.4	56	3.91	.61
31 - 40	23	531.4	79.1	27	3.81	.73
41 - 50	13	524.8	110.4	19	3.48	.98
50	23	533.1	125.3	24	3.77	.84
Demand of the Environment						
Not Dem.	34	479.6	83.7	42	3.31	.94
2	65	476.2	86.6	78	3.47	.78
3	68	495.2	97.7	74	3.64	.79
4	60	529.8	94.6	66	3.70	.71
Very Dem.	52	517.4	113.7	61	4.00	.72
# of Prof. Contacts						
1	15	494.1	96.9	18	3.57	1.03
2	50	505.0	88.3	56	3.83	.86
3	99	489.2	90.1	104	3.54	.80
4	67	487.4	93.6	85	3.63	.84
5	32	537.1	116.7	40	3.66	.67
6	16	542.8	137.9	17	3.67	.78
# of Roles						
1	7	445.4	85.2	8	3.74	1.13
2	22	469.1	117.4	28	3.82	1.05
3	52	487.9	94.4	61	3.64	.83
4	97	502.8	100.0	114	3.68	.78
5	101	515.3	97.3	110	3.53	.76

Conclusions

These results indicate that there are a number of environmental challenges facing individuals working in an applied setting which are related to research success and work satisfaction. While certain factors are immutable (e.g., the length of time since the completion of formal training), other variables associated with success (e.g., the percent of time conducting research, number of roles performed, and number of professional contacts) are subject to change and can be manipulated to enhance research performance and work satisfaction. Of course, these data, which were limited to questionnaire responses, have certain limitations which require that the results be viewed with caution. The first limitation of the study is the low response rate. The use of multiple followups to insure a higher response rate and reduce the possibility of bias should be considered in the future. A further limitation was that no objective data were collected regarding career success against which to compare the computed index of success. Furthermore, the relatively heavy weighting given the number of publications in the success index may render it of limited use in certain institutional settings reported by a number of respondents. The research success index is, however, indicative of success in the environments with which many of us are familiar. The results of this questionnaire study match very closely the research results of Pelz and Andrews who used objective criteria for research success. This agreement with previous research blunts the concern regarding the validity of self-report data and the weighting of publications in the index.

In the future, researchers will need to develop more comprehensive and multidimensional measures of the environmental conditions facing researchers and the outcome measures which are influenced by these conditions. If this challenge can be met we will be in a better position to understand the factors that facilitate or inhibit scientific performance.

The Future Focus of Research in Professional Education: Should We Establish an Agenda?

Frank T. Stritter

University of North Carolina at Chapel Hill

As Carole has indicated, our concern about the future of our field grew out of discussions at this year's Program Committee meetings. The result of our discussions was concern that our discipline and its specific applications in professional education might be like one of the tall ships trying to navigate across the Atlantic without a rudder.

Those discussions motivated me to do three things: 1) to reflect on the experience that Sarah Dinham and I had in researching and writing our chapter on Professional Education for the *Handbook of Research on Teaching*; 2) to determine what those we considered to be the principal contributors to our field feel about the issues; and 3) to think about the federal government's approach to funding research. A synthesis of all the information gathered from these sources is the basis for my comments today.

First, I would like to summarize Sarah Dinham's and my *Handbook* experience.

1) Much of what we found in the literature could really not be classified as research. Little of it was based on theory, little of it established causal links and little of it was generalizable to settings more than an immediate one.

2) The purpose of much of what we found was improving some immediate educational situation as opposed to illuminating an educational process. This means practical evaluation studies, not theory-based research.

3) Many of the studies focused on easily isolated variables as opposed to large issues of far-reaching scholarship.

4) Very little was found in any professional field but the health professions and the majority of that was in medical education.

5) Our overall conclusions were probably not surprising to most of you. Nothing reliable predicts clinical or professional performance, inadequate attention has been devoted to all the aspects of preparing a learner for a professional role—most research having been directed to cognitive abilities, difficulty exists in isolating the impact of specific clinical instructional characteristics, clinical experiences must be supplemented by other types of instruction to ensure a systematic clinical learning experience, little is known about the influence of location or site on learning, performance can be reliably and validly evaluated although it takes care and time and finally, clinical instruction is extremely difficult to evaluate and improve.

Now, what do you make out of all of that? I think it means that we have a job to do.

Second, I would like to summarize the results of a short questionnaire study undertaken during the past three months. The consistent contributors to Division I Programs during the last three years were identified. Then a few other names of senior scholars who have influenced our field were added to the list to reach a total of twenty-two individuals. We asked then a series of questions:

First, "Do you feel that those of us involved in research in professional education should have a research agenda to guide us?"

Eight of the respondents said no; six said yes; four said that we should identify broad general priorities; three were not sure; and one said the focus should be on quality.

Second, we asked "What do you feel are the research needs of Division I?" (Several comments were made, all of which were similar to the conclusions Sarah and I had reached in the *Handbook* research.) They said:

"A set of research priorities set by a respected group of professional education investigators could provide valuable guidelines."

"More attention must be paid to the larger theoretical issues in our research."

"The full range of research methods should be used and reported."

"The basic methodological requirements of any paradigm must be satisfied in our research."

"Technical skills of investigators in our field should be improved so that the quality of papers presented can be improved."

"We should look to parallel fields of educational research to determine relationships, obtain ideas and acquire guidance."

"Funding should be directed at educational questions that we deem important."

Third, we asked "What do you feel are the most important questions for research in our field today?"

Twelve focused on the impact of various types of instruction and environment on learning in clinical settings.

Twelve specified a need to develop better valid, reliable and feasible approaches to measure competence.

Eight pointed out the importance of determining the relationship between professional education and related aspects of cognitive psychology including the nature and development of cognitive expertise.

Seven discussed the need to identify aspects of curricula, both innovative and traditional, that have an impact on learners as well as how to assess the impact.

Seven indicated a need to determine the feasibility and utility of computer applications in professional education.

Five identified a need to determine the impact of organizations on learning and professional practice as well as how to influence those organizations to adapt.

Fourth, we asked "What questions do you personally plan to study in the next five years?"

Some referred to the issues they had identified in the previous questions, others made new statements.

Seven indicated they would study aspects of assessing clinical competence.

Five emphasized the study of the relationship between cognitive psychology, artificial intelligence and decision making.

Four will determine how computer and other types of instructional technology can be used in professional education.

Three will test approaches to evaluation of programs, curricula and institutions.

Three will examine how patient education can impact on disease prevention and cost reduction.

Two will study the effect of the changing health care system on professional education.

Finally, we asked "What theories will guide your research?"

The responses were so varied that it was difficult to draw conclusions, but a few did appear more than others.

Nine mentioned evaluation theorists such as Cronbach, Guba, Stufflebeam and Dressel.

Seven indicated qualitative research theorists such as Stake, Eisner and Patton.

Six specified decision making and problem solving theories.

Five will be guided by theories of cognitive psychology.

Five reported curriculum theorists such as Schwab and Tyler.

Four will look toward developmental psychology and adult development such as Piaget, Kohlberg, Knowles and Erikson.

Four specified learning theorists such as Bloom.

Three indicated the instructional theories of Glaser and Gagne.

Many other single theorists and theories were mentioned, many of which were unfamiliar to me.

In summary, there are two points of view concerning whether we should be guided in our work by an articulated agenda, although there was some agreement on the critical issues for our field and there was some pattern to the questions that individual investigators had chosen to pursue. The theories which the respondents draw upon are diverse and eclectic depending upon their training.

My own personal feeling is that we do need to present a more unified front to the outside world. Our friends from the biomedical sciences help to influence the government to fund certain research efforts and the government decides to fund others. There is funding available for some of the educational questions we want to study, but we must articulate our needs and our questions to the appropriate agencies and foundations. Otherwise I am concerned that the future for many of us will be bleak.

Some of us have been working hard with certain agencies to identify and set aside support and certainly some potential exists, but we have to help set the priorities if we expect to see any pattern. Who can do that better than we can? Do we intend to let those far removed from our context decide on the questions that will be funded? I was quite upset recently when one of the NIH Centers at North Carolina was site-visited by a team which included three educators. The head of the team later said to the Director of our center, "Can't those educators agree on anything?" Is that the image we want to portray? I think not.

My conclusion, although it is not unanimous among my friends and colleagues, is that we do need to define our priorities. That does not mean that we should stifle individual creativity. As the Charles Schulz character in *Peanuts* is fond of saying, "au contraire." We must, however, develop and test a theory or theories of professional education that will guide

both the research on professional education and its resulting application. We must also influence those who will fund the studies that we, as a discipline, believe are important. I don't think we can do either one without, at least, defining the priority issues and updating them as the needs change. It is time to get on with the job.

A Commuter's Guide to Educational Research in the Professions

Lee Shulman
Stanford University

I speak today as a particular kind of outsider. I spent eight years as a Professor of Medical Education actively doing research, serving on curriculum committees, and teaching medical students. During those years I continued my teaching and research activities in the School of Education. This dual role reminded me of Robert Merton's analysis of insiders and outsiders and whether you get the best perspective on a culture as an insider or as an outsider. Merton argued that there are advantages to each. My own role, I suggest, was neither as an insider nor as an outsider but as a commuter. It is a role that many in Division I play.

Let me begin with a parable. There exists a community, made up almost entirely of expatriates — individuals, who while born and raised in one community, have immigrated to a new home. They live in strange ghettos, often walled, yet right within their home community. These are ghettos which seem a good deal wealthier and more ornately decorated than the communities that were their sources. In these new communities, they are employed by a special group of priests and magicians, who are quite dependent upon their services and reward them accordingly, for the priests and magicians command great wealth and high status. The expatriates are quite certain that in striking this bargain with the priests and magicians they gave up their autonomy and the right to practice the religion they were taught before they immigrated.

To support the activities of the priests and magicians, the expatriates import enormous quantities of rituals, symbols and technologies from the community from which they came. However, they export very little. Their wealth has permitted them to survive economically in spite of this rather drastic imbalance of trade. Some have expressed a desire to export more products but they believe they cannot because of their unique burden of service to the priests and magicians. Still there is concern that this imbalance may lead to serious stagnation of the life of their smaller communities. End of parable.

Of course, I am speaking of educational researchers in the professions. I am sure they are being useful in the institutions in which they work. But, let us examine the "research trade" imbalance. What are examples of the importing that we have done from education to the professions? Are there any examples of exports? If so, what can we learn from analyzing them? How may we improve the trade balance?

First, imports. Probably the most successful and widely used imports are those we would classify under the categories instructional design and development and the associated processes of evaluation and testing. For example, behavioral objectives, task analysis, evaluation methods, mastery learning, and a variety of measurement models moved through that membrane very quickly in the early '70s. Theories and methods from cognitive psychology — especially problem solving, decision making, and judgment research — and ethnographic and case study approaches have been imported more recently.

What about exports? That list is a lot shorter but it has something to teach us. For example, the most significant stud-

ies ever done in professional socialization were done in schools of medicine. I'm talking about *Boys in White* by Becker and his colleagues, and the *Student Physician* by Merton and his colleagues. It is impossible to do a study of professional socialization in any profession without referencing and thinking about these works which are nearly 30 years old. Why is it possible, however, to do professional socialization studies without referencing over 100 professional socialization studies that were subsequently done mainly by people in education in the professions. Why has there not been, to my knowledge, a significant conceptual contribution to the field of professional socialization from the more recent studies? A lovely second example is the work of McGuire and her colleagues which began in the '60s on patient management problems but evolved and broadened to significant work on both technologies of assessment and complex human problem solving and to theoretical work on problem solving. That's a very significant export, one that we continue to draw upon in the broader education community today.

I believe the field of education in the professions has an obligation to itself and to the broader educational community to become less parochial, less centripetal in its orientation and more concerned with linkages between what it does and the broader range of educational, psychological and behavioral science questions. I really do fear that many educational researchers in the professions are busy and successful within the ranks of their institutions, but feel less than fulfilled as scholars and as contributors to education more broadly. But more important, there is a general obligation that all educators have to one another. I suggest that the sites where many of you work, are what Merton would call strategic research sites. They provide problems that represent far broader issues and agendas. Becker or Merton could have written their books only from the limited perspective of "what can we learn from medical curriculum from following a bunch of medical students around?" If they had, their work would have been discernably obscure 30 years later. But they didn't! They saw what they were doing as an instance of a larger theoretical and substantive question. By framing their work in that way, by identifying professionally as members of a larger community, they wrote work that is timeless. That work has no less value for the professional education community (it is continuously replicated or employed), but also has enormous value to the broader community. Thus, I urge you to think of yourselves as people who have an obligation, in every study you do, to ask "What is this phenomenon an instance of?" beyond the immediate demands of your local situation.

Let us remember that a profession is a particular kind of activity. What makes something a profession is that it involves a set of tasks that are: (1) particular, judgmental, contingent, and involve problem-solving and decision-making and (2) grounded in a body of codified knowledge. Education in a profession is almost universally a combining of instruction in those bodies of codified knowledge and supervised practice in the range and diversity of tasks that characterize the work of the profession. There is, therefore, a universal problem that every educator in a profession deals with. How do I relate the bodies of codified knowledge to day-to-day practice? That's a broad, general, enduring question for education. It's theory and practice. It's the general and the particular. It is thought and action. The professional school is an incredible research site for examining that question. What are the relationships between different ways of organizing the knowledge base, which is codified, and the facility with which practitioners can solve problems? The history of medical education, for example, is a series of natural and planned variations asking precisely that question. The Flexner curriculum was one hypothesis about that. Codify the knowledge in a manner consistent with the disciplines themselves and then move to practice settings that are accurate representations of the practice field itself. The Western Reserve curriculum (the organ sys-

tems curriculum), was an alternative hypothesis. The problem-based curricula at Michigan State, McMaster, Southern Illinois University, and other places, are again examples of yet a third hypothesis about the relationship between the organization of knowledge and its application in problem solving situations. We have hundreds and perhaps thousands of studies that evaluated different aspects of those curricular experiments. How many of those studies are now cited? How many addressed the broader question of how to codify knowledge for practice?

Although my examples have come from medicine, the need to study broader questions cuts across professions. In fact, just analyzing the question of theory to practice in medicine is insufficient. As someone who now is primarily a teacher educator, I find that teaching may be a profession in which analogical reasoning from precedents is perhaps more useful than deductive reasoning from principles. I wish I had a body of research in legal education that thought of itself as an instance of this. I can't find any. I wish I had a body of research in architectural education that looked at architecture broadly as a domain in which bodies of codified knowledge in the physical sciences and engineering must be blended with design. How do these things happen? The point is, you need to change the frames you use to think about your research. For example, why can't I find much research on the use of case methods in teaching from people who look at education in law schools or business schools? Or the relative role of clinical cases and didactic teaching for clinical education in medicine and nursing? The professional schools have been pioneers in affirmative action recruiting of medical students. Minority students have been actively recruited in medical and law schools for a decade. What has been the experience of working with students who often have had lower entry exam scores than the rest of the students? How has that instruction proceeded, under what conditions has it succeeded, under what conditions has it failed and what are the lessons to be learned for the broader education community? I suspect that most of that research has been done in the form of confidential memos to the Dean. What about your obligation to teach the rest of us? It's not just in medical and law schools that we're trying to meet affirmative action responsibilities!

What is my answer then to the general question on which this session was predicated, "Does Division I need a new agenda?" It is "No," if an agenda is a list of problems to which we all pledge allegiance and promise to put into the priority list for next year's annual report. Do we need a reorientation, a resocialization, a new identification with a field that almost all of us once thought ourselves as members of? Yes. I think that the question is one of framing, of audience and I think that living as a bi-national citizen, holding two passports, does not necessarily make your lives more difficult. Many of the claims that you wish you could do something else but the priests and magicians won't let you are convenient. They are helpful, but they won't wash. All educational researchers have service obligations.

Very simply, you are not torn between two irreconcilable sets of demands. The problem is one of framing your own role, of your own definition of the situation. The time has come for that redefinition.

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Do You Want to Join AERA or Division I? Write to...Secretary, Ilene B. Harris, University of Minnesota, Box 33 Mayo, 420 Delaware, SE, Minneapolis, MN 55455.
